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SAFETY, HEALTH AND
ENVIRONMENTAL AFFAIRS
DEPARTMENT

September 4, 1980

Dr. William E. Mott, Director
Environmental and Safety Engineering Division
Office of Environment
Department of Energy
Washington, DC 20545

SUBJ.: Survey of Electromet Site at Niagara Falls, NY Formerly Used by Manhattan Engineer District and/or Atomic Energy Commission

Dear Dr. Mott:

This is in response to your letter of August 5, 1980 on the subject to me.

The survey report is generally acceptable and I have attached a copy showing our suggested changes. Background information on disposal of materials from the demolished building was sent to Mr. A. F. Kluk of your office on April 20, 1979.

Mr. A. Abriss of your office called on August 28, 1980 and indicated that Oak Ridge National Laboratory personnel would visit us during the week of September 22, 1980 and conduct the survey recommended in the report. Since receipt of your letter, we have surveyed the site and will be able to quickly locate those areas with readings above background for the ORNL personnel.

If additional inspection of the old Union Carbide waste disposal area is planned, I suggest you contact the current owner and operator, CECOS International, Inc., P.O. Box 619, Niagara Falls, NY 14302, Attn. Mr. F. Nero, President.

Please let me know if you require additional information on this matter.

Very truly yours,

C. R. Allenbach

Manager of Environmental, Health
and Product Safety Affairs

CRAllenbach:fhr

bc: F.T. Temple + D.H. Hawkes*
R.J. Klotzbach + W. Chynoweth*
E.W. Kantz/File*
F.M. Charles*
W.R. Pioli
D.R. Brasnahan

*Attachment - August 5, 1980 letter from Dr. W.E. Mott to C.R. Allenbach

PRELIMINARY SURVEY OF ~~ELECTROMET CORPORATION~~ UNION CARBIDE METALS DIVISION NIAGARA FALLS, NEW YORK

Work performed
by the
Health and Safety Research Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee 37830

March 1980

OAK RIDGE NATIONAL LABORATORY
operated by
UNION CARBIDE CORPORATION
for the
DEPARTMENT OF ENERGY
as part of the
Formerly Utilized Sites--
Remedial Action Program

~~ELECTROMET CORPORATION~~
UNION CARBIDE METALS DIVISION
NIAGARA FALLS, NEW YORK

At the request of the Department of Energy (DOE, then ERDA), a preliminary survey was performed at the ~~Electromet Division of the~~ Union Carbide Corporation Metals Division plant in Niagara Falls, New York (see Fig. 1), on August 24, 1976, to assess the radiological status of those facilities utilized under Manhattan Engineer District (MED) contract during the period 1943 through 1946. Robert D. Forgeng, Plant Manager, provided information about the contract operations and identified the former site of the one building (a cinder block and wood structure) utilized in the process. C. R. Allenbach and Don Hawkes also provided information as to the building location and project operations. Also, Bill Chyowith, an Chynoweth employee at the plant during the MED contract period, provided information about operational processes and assisted in identifying the location of the building which was demolished about 1958.

The project involved receiving Green Salt (UF_4) in drums from the Linde Air plant at Tonawanda, New York, ~~melting down~~ reacting the Green Salt in ~~induction~~ furnaces, converting it to metal, and then recasting it into ingots ~~of about 110 to 135 kg each.~~ The building was formerly located where Building 166 now stands and just west of Building 163 (see Figs. 2 and 3) which existed at the time of the project. The former process building was constructed of wood and cinder block and was about 18 x 46 m at one end and 14 x 46 m at the opposite end. Waste from the operation was disposed at the Lake Ontario Ordnance Works depot. Residues of dolomite slag liners (MgF_2 slag), uranium chips, and crucible dross associated with the process were shipped to other sites for uranium recovery.

Present Use of Facilities

The building utilized in the MED project was washed, vacuumed, and, in some locations, the concrete floor and some wood platforms were removed (see Report NO4600). Following the project (post-1946), the building was used for zirconium processing from 1947 to 1948, and later titanium was processed prior to demolition. Building 166 (see Fig. 4)

was constructed on the site of the former process building, and it is currently used by Union Carbide's Metals Division operations.

Results of Preliminary Survey

The preliminary survey was performed by H. W. Dickson of the Oak Ridge National Laboratory and W. T. Thornton of the DOE/Oak Ridge Operations Office (then ERDA). Accompanying Dickson and Thornton during the survey was C. R. Allenbach, Don Hawkes, and Bill Chyowith. Measurements taken at this site included external gamma-ray exposure rates taken at 1 m in height and beta-gamma dose rate taken at 1 cm from the surface. Results of the survey measurements were within background levels with the exception of slightly elevated background with maximum beta-gamma dose-rate readings of 0.1 mrad/hr at a location between Buildings 163 and 166. Survey measurements in sections of the old Union Carbide dump (200 to 300 acres and now owned by ~~Niagara Recycling~~ CECOS International, Inc.) located to the north of Pine Avenue (see Figs. 5 and 6) resulted in radiation levels that were not significantly above background levels. It was believed that some of the waste from the process and rubble from the demolition of the old building may have been discarded at this dump.

Chyowith

In view of the near background radiation measurements taken at this site, a comprehensive, formal survey will probably not be required. However, it is suggested as a precautionary measure to (1) obtain further measurements between Buildings 163 and 166 to define extent of elevated readings, (2) obtain a soil sample at location in (1) where maximum β-γ and external gamma measurements are observed, (3) drill core samples in the old Union Carbide dump to determine if any radioactive material has been deposited in this area.

A formal survey of this facility was performed as part of the dismantlement and decommissioning of Electromet by the Health and Safety Division of the AEC on August 11 and 14, 1953. The results of this survey are reported in the attached document.

→ Some of the rubble from demolition of the old building and ashes from the burning of combustible material were buried at this dump.